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Green-TEA… a legacy for the planet?

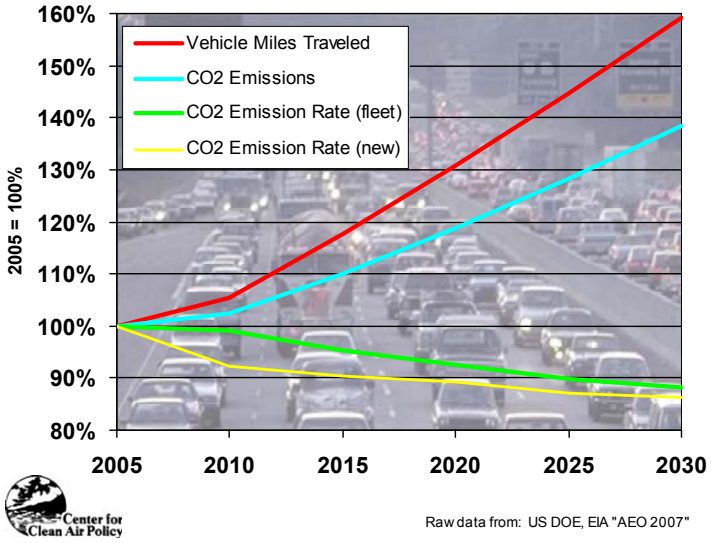
Introduction: Transportation and Climate Change

Global climate change is underway. With intensified Congressional discussions, state and local actions, corporate commitments and media attention we are at a tipping point on national climate policy. However, climate policy discussions to date have ignored a key determinant of transportation sector emissions – the Federal surface transportation bill. This memo is meant to introduce climate change into transportation reauthorization discussions. We look forward to your feedback and input.

SAFETEA-LU rewards *increased* vehicle miles traveled (VMT) and associated greenhouse gas (GHG) emissions. The user-fee based funding formulae are based on VMT, fuel use and lane miles and therefore reward increases in GHG emissions. Transit projects require an 80% local match, but road projects only require 50%. The alternative analyses required for large projects and SIP conformity take narrow views of benefits that ignore the potential savings from integrating transportation and land use. While state climate plans have included VMT reductions measures,[1] there has been limited follow through to date.

Transportation already accounts for approximately one third of US CO_2 emissions, with personal vehicle use approximately 60% of that. Climate protection will likely require that total US GHG emissions be at or below 1990 levels by 2020; current transportation emissions are 27% above 1990 levels. Unfortunately, the problem is expected to get worse: the US DOE forecasts that VMT will increase by 60% between 2005 and 2030, while the fleet CO_2 emission rate decreases by only 12%. The net result is that passenger vehicle CO_2 emissions are expected increase by another 40% by 2030 (Figure 1).

Figure 1. Projected Growth in Travel Activity and CO_2 Emissions for Cars and Light Trucks



California's new passenger vehicle standards will reduce GHG emissions 27% by 2030. Were Congress to adopt similar standards this year, passenger vehicle GHGs emissions could flatten off at 2010 levels. Other transportation measures also have the potential to result in significant GHG reductions: aggressive penetration of biofuels could cut emissions by 10-20%; smart growth and transit could reduce emissions by 5 to 20%.[2] Smart growth would also cut consumers' fuel bill by $20-80 billion per year (Figure 2).

Figure 2. Fuel, Cost and GHG Savings in 2030 under different VMT Growth Scenarios

Scenario	VMT Savings (by 2030) %	VMT Growth 2005-2030	Annual Fuel Savings (billion gal)	Annual Cost Savings* (billion)	Annual GHG Savings (MMTCO2)
AEO 2007	-	159%	-	-	-
1	5%	154%	9	$20	81
2	10%	149%	18	$41	161
3	15%	144%	27	$61	242
4	20%	139%	36	$82	322

* At $2.25/gallon CCAP 2007

The Climate Bill

None of the national legislative proposals on climate change include serious treatment of travel demand. By ignoring the GHG impacts of VMT growth, a reauthorization that continues the status quo will erode benefits of other GHG reduction policies such as renewable energy, power plant caps and CAFE. A cap-and-trade approach will not provide sufficient and effective price signals for slowing VMT growth given the short time frames (budget periods), the inelastic demand for driving, and the multiple parties involved in transportation and land use decisions.[3] Increased support for transit, TOD and regional land use planning will be critical for reducing transportation GHGs. Regardless of which climate legislation passes it will need to link with the transportation bill to effectively address travel demand issues.

Climate change policy provides an important opportunity to bring in non-traditional allies on transportation reform issues – utilities, car companies, and oil companies, all of whom appreciate that they will be squeezed harder if nothing is done about VMT growth. CCAP is starting to make these linkages in our national Climate Policy Initiative which includes high-level representatives from industry, environmental groups and state and local governments.[4] In 2007, CCAP will launch a workgroup on Travel Demand and Climate Change to focus on how Federal transportation policy can be modified to help reduce VMT and GHG emissions. With participants from NGOs, state and local officials; and private developers we will:

- Explore how to integrate climate and energy concerns into transportation reauthorization
- Look for opportunities to target Federal infrastructure funding to support smart growth
- Look for lessons from the failures of the SIP and conformity processes to address sprawl
- Develop a concrete 'landing place' for national climate policy design to address VMT growth.

Climate and Energy Impacts of SAFETEA-LU Reauthorization

By encouraging more spending on roads than on transit and travel demand reduction, SAFETEA-LU:

- Encourages sprawl
- Limits transportation choices
- Locks us into a path of continued petroleum dependence
- Increases greenhouse gas emissions
- Shifts costs to individuals by reinforcing automobile dependence
- Forces communities and regions to waste money through inefficient infrastructure development[5]

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[1] For example, see: CCAP, Recommendations to Governor Pataki for Reducing New York State Greenhouse Gas Emissions, http://www.ccap.org/pdf/04-2003_NYGHG_Recommendations.pdf, April 2003.

[2] See CCAP Transportation Emissions Guidebook: www.ccap.org/guidebook.

[3] For more information see: Winkelman et. al, "Transportation and Domestic Greenhouse Gas Emissions Trading," CCAP, 2000: http://www.ccap.org/pdf/TGHG.pdf .

[4] For more information on the CCAP Climate Policy Initiative, see http://www.ccap.org/domestic/quality.htm.

[5] The Envision Utah smart growth scenario would save $4.5 billion in infrastructure costs through 2020. Parsons Brinckeroff calculated savings of $460 million in infrastructure and operating costs through 2020 for Albuquerque. The Research Institute for Housing America projected national savings of up to $10 billion a year from smart growth measures.

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Green-TEA?

The next Federal surface transportation bill should include the following goals:

- Protect the global climate
- Reduce America's oil bill
- Increase transportation choices
- Strengthen traditional, walkable communities

Potential recommendations include:[6]

1. Add GHG Reduction and Energy Conservation Goals to Green-TEA

2. Tie Federal Transportation Funding to Energy Conservation and GHG Reduction

- Tie a portion of transportation funding to an energy, GHG or VMT reduction requirement
- Fund a study to develop a funding formula that is neutral on VMT and fuel consumption

3. Redirect Funding to Support Energy Efficient Alternatives

- Change Federal funding ratios for new highway and transit to provide a level playing field, or tilt the balance toward transit to reflect climate protection needs
- Increase the share of funding for transit operations, bicycling, walking & travel demand management
- Decrease the share of transportation funding for new road construction

4. Increase Support for Regional Transportation and Land Use Planning, Scenario Analyses and Visioning Processes

- California Blueprint planning grants and learning network may provide a useful national model.

5. Require Alternative Land Use and Transportation Scenario Analyses for TIPs and LRTPs

- The TIP and LRTP planning processes require alternatives analyses for specific large projects but not for the full program or plan. At the local project scale the likelihood of detecting any discernible land-use impact is small; thus lower-cost, more efficient alternatives may be missed.

6. Require MPOs to develop GHG/Petroleum Reduction Plans

- Require MPOs to establish GHG/petroleum reduction and mode-split goals as part of LRTPs

7. Add GHGs to Conformity?

- Would require Clean Air Act modifications
- Would not make sense without the land use and regional planning recommendations above

8. Provide Incentives to Encourage Location-Efficient Development and Efficient Travel Behavior

- Incentives for smart growth and transit-oriented development
- Mileage-based insurance, commuter choice, congestion pricing, transit pricing incentives, etc.

9. Improve VMT Data (Federal research title)

- Require development of tools and methodologies to calculate the VMT-generating consequences of transportation plans, programs and projects (including induced demand)
- Provide funding to improve tracking of VMT data at the regional and local levels.

10. CMAQ: Eliminate blanket eligibility of traffic flow improvement projects

- Require incorporation of emissions impacts of induced demand

[6] A number of these recommendations originated in the following paper: CCAP, CNT and STPP, "Climate Matters: The Case for Addressing Greenhouse Gas Reduction In Federal Transportation Policy", January 2003.

Other Federal Infrastructure Policies

Federal infrastructure policies such as for housing, water treatment systems, and schools could be leveraged to foster development of areas with rich transportation choices and efficient land use patterns via incentives or performance criteria.

Adapting to the Impacts of Climate Change

In the coming decades, communities around the country will face changed climate conditions affecting water supply, water quality, public and private infrastructure, and flood and storm management. CCAP's **Urban Leaders Initiative on Land Use, Infrastructure and Climate Change** provides a forum for leading local government officials to ensure that infrastructure and land use decisions bolster the resilience of their communities to climate change impacts.[7] Our partners will develop Urban Leader Commitments for 'climate proofing' specific infrastructure investments, plans and policies over the next 25 years, with a focus on short-term opportunities for action. We will also provide critical framing of Federal infrastructure policies that affect local adaptation efforts. Urban Leaders Initiative partners include King County, Los Angeles, Miami-Dade County, Milwaukee, Nassau County and San Francisco. Transportation reauthorization, climate legislation, and Homeland Security/FEMA bills provide opportunities to support local efforts to adapt to the projected local impacts of global climate change:

Provide Support for Climate Adaptation Planning and Implementation

- Provide information, tools and resources to help communities protect their infrastructure investments from the impacts of climate change.
- Adaptation options include use of permeable paving materials, locating new infrastructure out of harm's way and reinforcing existing infrastructure.

Next Steps on Green-TEA and Climate Change

Effective national climate policy will require changes in Federal transportation funding policies. A serious national commitment to reducing GHG emissions can inject new energy into smart growth and transportation policy reform discussions. Over the next two years, CCAP will work with partners in the NGO community, state and local government and private sector to refine the recommendations presented in this initial memo. We look forward to your input and engagement.

Questions? Comments? Please contact:
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[7] For more information: http://www.ccap.org/domestic/ULI.htm.